

the star in the calendar has been of the utmost importance for the progress of astronomy, since It led the Egyptians directly to the determination of the approximately true length of the solar year and thus laid the basis of our modern calendar; for the Julian calendar, which we owe to Caesar, was founded on the Egyptian theory, though not on the Egyptian practice.<sup>1</sup> It was therefore a fortunate moment for the world when some pious Egyptian, thousands of years ago, identified for the first time the bright star of Sirius with his goddess ; for the identification induced his countrymen to regard the heavenly body with an attention which they would never have paid to it if they had known it to be nothing but a world vastly greater than our own and separated from it by an inconceivable, if not immeasurable, abyss of space.

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period was recognized by the Egyptian astronomers who instituted the movable year of 365 days. Rather, as Ideler pointed out (*op. cit.* I. 132), it must have been a later discovery based on continued observations of the heliacal rising of Sirius and of its gradual displacement through the whole length of the official calendar. Brugsch, indeed, went so far as to suppose that the period was a discovery of astronomers of the second century A.D., to which they were led by the coincidence of the first of Thoth with the heliacal rising of Sirius in 139 A.D. (*Die Agyptologie*, p. 357). But the discovery, based as it is on a very simple calculation ( $365 \times 4 = 1460$ ), could hardly fail to be made as soon as astronomers estimated the length of the solar year at 365 $\frac{1}{4}$  days, and that they did so at least as early as 238 B.C. is proved conclusively by the Canopic decree. See above, pp. 25 *sq.*, 27. As to the Sothic period see further R. Lepsius, *Die Chronologic der Aegypter*, i. 165 *sqq.* ; F. K. Ginzel, *op. cit.* i. 187 *sqq.* For the convenience of the reader I subjoin a table of the Egyptian months, with their dates, as these fell, (i) in a year when the first of Thoth coincided with July 20 of the Julian calendar, and (2) in the fixed Alexandrian year.

Egyptian Months.	Sothic Year beginning July 20	Alexandria n Year.
Thoth .	20 July .	29 August
Phaonhi	19 August	28
Athyr	18	28 October
Khoiak	18 October	27
Tybi .	17	27
Mechir	17	26 January
Phamenot	16 January	25
h	15	February
Pachon	17 March	26 April
Payni	16 April	26
		May
Mesori	15 June	25 July
Suppleme ary day	15 July .	24 August

See L. Ideler, *op. cit.* i. 143 sq. |

F. K. Ginzel, *op. cit.* i. 200.

<sup>1</sup> The Canopic decree (above, p.

27) suffices to prove that the Egyptian astronomers, long before

Caesar's time, were well acquainted

'with the approximately exact length of the solar year, although they did not

use their knowledge to correct the

calendar except for a short time in the

reign of Ptolemy Euergetes. With

regard to Caesar's debt to the Egyptian

astronomers see Dio Cassius, xliii. 26

Macrobius, *Saturn*, i. 14. 3, i. 16. 39;

L. Ideler,

*Handbuch der mathematischen und technischen Chronologie* i. 166

sqq.